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Palmer Hough/DC/USEPA/US

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To Glenn Suter

cc Jeff Frithsen, Kate Schofield, aicher.rebecca, Barbara Butler, Bill Dunbar, Cara Steiner-Riley, Christopher Hunter, Dave Athons, David Allnutt, Glenn Suter, Hanady Kader, Heather Dean, Heidi Nalven, Jason Todd, Jeff Frithsen, Jenny Thomas, Jim Wigington, Joe Ebersole, Judy Smith, Julia McCarthy, Kate Schofield, Marianne Holsman, Mary Thiesing, Michael Szerlog, Palmer Hough, Phil North, Rachel Fertik, Richard Parkin, Sheila Eckman, Tami Fordham

bcc

Subject ADN Op-Ed: Review of EPA work on Pebble was sound

Glenn:

Thanks for sharing this article from the ADN. I'm cc'ing more of the BB team.

-Palmer


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Glenn Suter	08/30/2012 07:33:51 AM
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To:	Jeff Frithsen/DC/USEPA/US@EPA, Kate Schofield/DC/USEPA/US@EPA, Palmer Hough/DC/USEPA/US@EPA
Date:	08/30/2012 07:33 AM
Subject:	Peer review in the news

**News Headline:** Review of EPA work on Pebble was sound | 

**Outlet Full Name:** Anchorage Daily News - Online

**News Text:** As a fisheries scientist, I tend to deal in a world of technical jargon. Oncorhynchus, isotopes, and life history plasticity are terms we use often. The same goes for the term 'peer review,' the process in which the EPA recently engaged prominent scientists to review its draft "Assessment of Potential Mining Impacts on Salmon Ecosystems of Bristol Bay, Alaska."

Peer review, the process that scientists use to test their work among a jury of their peers, is not only an uncommon term, but an unfamiliar process to the general public. Wikipedia appropriately states that peer review methods are employed to maintain standards, improve performance and provide credibility. The "process

encourages authors to meet the accepted standards of their discipline and (discourages) dissemination of irrelevant findings, unwarranted claims, unacceptable interpretations and personal views." Peer review is a scientific process, not a trial of public opinion.

Standard scientific peer review typically involves three anonymous reviewers. In contrast, a panel of 12 known experts -- ranging in expertise from mining to Alaska Native cultures, hydrology, and fisheries -- publicly reviewed EPA's draft assessment. Their task was to critique the assessment based on its scientific content and merit. Unlike standard peer review, input was accepted from more than 100 members of the public.

The vast majority of people critical of the assessment were not scientists, and focused on non-scientific rhetoric: data were insufficient, results relied on a "hypothetical mine plan," and the document was prepared and reviewed in haste.

The majority of scientific experts who spoke to the panel, however, agreed that the assessment provides a thorough review of existing science regarding fisheries resources and habitats of Bristol Bay and potential impacts from mining, pipelines and roads. They pointed out that EPA included data presented in Pebble's Environmental Baseline Document when those data were transparent and reliable. And they explained that the hypothetical mine scenarios were based on the smallest versions of project descriptions provided by Northern Dynasty Minerals in 2006 and 2011 (2 billion to 6.5 billion tons of ore were used for the assessment rather than the 10.8 billion tons of ore described by Northern Dynasty).

Further, those scenarios excluded impacts from necessary infrastructure (e.g., housing, port, and power facilities) and additional mines that Pebble's infrastructure would facilitate. The assessment efficiently and comprehensively synthesized the best available existing science for the region dating as far back as the 1960s. The EPA review process has been the most thorough I've witnessed in my 15 years as a professional scientist.

Public testimony criticizing the assessment included just a few scientists with technical expertise, despite Pebble Limited Partnership's misleading claims of scientific rigor in its own research. Other testimony critical of the assessment referred to ambiguous "technical errors, inaccuracies, and inconsistencies," but failed to specify where those occur in the document or how they can be addressed.

On the other hand, supporters of the EPA assessment included more than a dozen scientists who all provided constructive criticism and substantive feedback in their diverse areas of expertise, which will ultimately strengthen the final assessment, just as peer review is intended.

Peer reviewers spent the second day of deliberations publicly discussing the technical merits of the assessment. Several substantive themes permeated their discussion. Those included the need to consider cumulative impacts of infrastructure and additional mine development, broader cultural impacts of industrialization, climate change and the impossibility of predicting facilities maintenance "in perpetuity." These comments point to the fact that when incorporated into a final assessment, input from peer reviewers will make the assessment even stronger, and will likely lead to the conclusion that risks to Bristol Bay's fisheries from large-scale mining activities are even greater than first estimated.

While peer review is unfamiliar to many watching the Pebble debate unfold, it is crucial to establishing the sound science we use as a society to inform policy decisions. Both the EPA and the independent peer review panel are to be commended for their exhaustive efforts to ensure that we get the science right.

Sarah O'Neal is a Bristol Bay commercial fisherman and a salmon ecologist with Fisheries Research & Consulting. She is one of few independent scientists with experience on the ground at the Pebble prospect.